

PRELIMINARY REMARKS

Claims 1 to 4, 6, 7, 9 to 12 and 14 to 18 as presented with applicants' paper dated December 18, 2007, are currently pending.

The Examiner indicated that Claim 6 was allowable, and that Claims 3, 9 and 14 would be allowable if rewritten in independent form.

As concerns Claims 1, 2, 4, 7, 10 to 12 and 15 to 18, however, the Examiner alleged that the claimed subject matter was unpatentable under the provisions of 35 U.S.C. §103(a) in light of the teaching of *Motojima et al.* (US 4,866,201).

In particular, the Examiner took the position that the reference: "teaches a method of applying to orchards (fruit trees) a composition comprising instant compounds of formula I. See abstract, column 20 lines 50-63. Note that orchards are fruit trees. Also note the step of applying the compound of formula I to the fruit tree in the claim is also carried out by Motojima [sic] which makes it obvious that the flavonoids and other phenolic compounds would increase in the orchards of Motojima [sic]."¹⁾

In their reply dated June 28, 2008, applicants' *inter alia* explained that the remarks made in the reference specifically address the treatment of undergrowth grasses in orchards rather than the treatment of orchards *per se*. Additionally, applicants' illustrated that orchards may or may not comprise undergrowth grasses, and showed that orchards in which the development of undergrowth grasses is likely allow for a distinction between non-crop areas in which the undergrowth grasses may develop and crop areas.

Additionally, applicants herewith submit abstracts of papers which further corroborate that a person of ordinary skill in the pertinent technology is well versed in application techniques which allow for a selective treatment of non-crop areas which may be present in an orchard.²⁾

The Examiner's attention is, on the one hand, respectfully drawn to the statement of *Derr* which is found in lines 5 and 6 of the Abstract: "Weeds are generally controlled within the row using herbicides while grass sod is often used in row middles for erosion con-

1) Final Office action page 2, lines 14 to 21.

2) ABSTRACT of DERR, Horttechnology 11(1), 11-19 (2001); ABSTRACT of AHRENS, Proceedings of the Northeastern Weed Science Society 32, 189 (1978)

trol" (emphasis added). Accordingly, the application techniques employed in the treatments with which the disclosure of **Derr** is concerned selectively target only a specific part of the non-crop area in an orchards without including a treatment of the crops.

The Abstract of **Ahrens**³⁾ similarly mentions in lines 3 and 4 a selective treatment in which a weed controlling agent was specifically banded 3 feet on either side of the trees. Additionally, the reference mentions an application of drenching sprays of the weed controlling agent on the whole scaffold branches of the trees in lines 11 and 12. Notably, the Abstract also notes in lines 14 to 17 that the drenching applications caused the trees to exhibit damages in the season following the application.

Although the Abstracts pertain to the treatment of apple orchards with certain herbicidal ingredients, they are nonetheless deemed to be well suited as an illustration that a person of ordinary skill in the pertinent art is accustomed to employ selective application methods in the treatment of undergrowth grasses in orchards. The Abstracts are also deemed to be well suited to show that a person of ordinary skill in the particular art clearly distinguishes the treatment of undergrowth grasses in an orchard from a treatment of the orchard *per se*.

The statements of **Motojima et al.** that the compounds addressed in the reference may be utilized to treat non-crop areas such as undergrowth grasses in orchards, therefore, cannot reasonably be deemed to necessarily entail a treatment of the particular fruit trees which is being cultivated in the orchard.

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherence of that result or characteristic.⁴⁾ "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'"⁵⁾ The treatment of undergrowth

3) Applicants regret that a better quality copy of the Abstract was not readily available.

4) *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993).

5) *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted; emphasis added).

grasses in an orchard does not necessarily entail a treatment of the cultivated trees. Any result which may be achieved under particular circumstances, therefore, cannot be regarded as an inherent result of the teaching of *Motojima et al.*

It is well settled that inherence of an advantage or property and its obviousness are entirely different questions and that an inherent advantage or property which is achieved only under a given set of circumstances is not necessarily known or apparent to a person of ordinary skill. Obviousness cannot be predicated on what is unknown.⁶⁾ Therefore, and in light of the arguments presented in applicants' papers of June 26, 2008, and December 18, 2007,⁷⁾ the teaching of *Motojima et al.* cannot be deemed to render the subject matter of applicants' Claims 1, 2, 4, 7, 10 to 12 and 15 to 18 unpatentable under Section 103(a).

Favorable reconsideration of the Examiner's position and withdrawal of the respective rejection is respectfully solicited.

6) Cf. *In re Rijckaert*, 9 F.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993).

7) The respective arguments are herewith incorporated by reference.

Biological assessment of herbicide use in apple production - I. Background and current use estimates

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Abstract: Weed management is an important concern for apple producers. Weeds compete with fruit trees for water, nutrients, light and pollination by insects. Weed competition can dramatically reduce apple tree (*Malus domestica* Borkh.) growth and yield. Weed control practices can impact rodent populations, and insect and disease management in orchards. Use of cultivation can increase soil erosion. Mulches are too expensive for use in orchards and can increase rodent problems. Weeds are generally controlled within the row using herbicides while a grass sod is often used in row middles for erosion control. The most commonly used postemergence herbicides in apples are glyphosate, paraquat, and 2,4-D. Simazine is the most commonly used preemergence herbicide.

GLYPHOSATE FOR WEED CONTROL IN APPLE ORCHARDS

John F. Ahrens 1/

ABSTRACT

Glyphosate was applied each spring in replicated trials in three apple orchards for periods of 2, 3, and 4 years at rates of 1 to 3 lb/A (aa), alone or in combination with simazine. Sprays in volumes of 50 or 100 gal/A were banded 3 ft on either side of trees, hitting basal suckers and bark. Although treated suckers usually were killed, no injury to the trees was ever observed. A broad spectrum of annual and perennial weeds was killed by May applications of glyphosate. Weeds that were partially resistant included brambles (*Rubus* sp.), horse nettle (*Solanum carolinense* L.), and poison ivy (*Rhus radicans* L.). Delaying the glyphosate sprays until July one year essentially eradicated these species.

Drenching sprays of glyphosate at 2 or 4 lb/100 gal (aa) in June, July, or August on whole scaffold branches of apple trees, accelerated fruit drop on the treated branches but did not visibly affect the rest of the tree during that season. During the next season after spraying, these branches were severely injured or killed and strips of bark below them frequently were killed. Dwarfing of leaves sometimes occurred on adjacent higher branches on the same side of the tree. Untreated portions of trees bore heavy yields of fruit the following season.

Glyphosate proved to be a valuable herbicide for orchard use with little hazard to trees when kept off the foliage.

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